

**METHOD AND APPARATUS FOR AUTOMATING
THE DESIGN OF PROGRAMMABLE LOGIC DEVICES**

ABSTRACT

The design of programmable logic devices, such as FPGAs, may be automated to allow scripts, setup files, and other tool files to be created directly from hollow and filled netlist files without extensive human intervention. This allows an FPGA design to be created directly from a logic file to accelerate the FPGA design process. Once a netlist and set of constraints has been generated from a design in a standard fashion, the implementation of that design onto an FPGA in an optimized fashion is automated by providing a computer program that is capable of implementing the design, testing the design, evaluating the test results, and altering the design to arrive at a more optimal design. The process may include several steps, such as initial placement of logic groups, sizing of logic groups and FPGA selection, timing analysis, and filled netlist complete design review. The steps may be iterative.